

Learning Effects and Unemployment Insurance

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Purpose

This note highlights the main results of a study that analyses the evolution of the propensity of Canadian men to collect UI from 1972 to 1992.

Background and context

This study is a component of the wider evaluation of UI regular benefits. Among issues of interest in this evaluation are the incentive effects created by the UI system on worker employment behaviour.

A growing number of studies based on cross-sectional data have investigated the impact of the Canadian UI program on employment and unemployment behaviour of workers. Although most of these studies suggest that many workers tend to adjust their labour market behaviour to the parameters of the UI system, they do not provide direct evidence on the dynamics of these adjustments. Specifically, the pattern of UI use from one year to another is not well understood.

The main goal of this study is to determine how the propensity of an individual to start a UI spell evolves in such a dynamic setting. This is examined by using the extensive UI longitudinal administrative data set of Human Resources Development Canada.

The longitudinal perspective is important. If the UI system is mainly an insurance program against business cycle fluctuations or structural change in the economy, then use by any given individual should be an infrequent event that is correlated with the business cycle or regional shocks. However, if the UI system is being used as a subsidy for leisure, then one would expect that individuals would have a consistent and regular pattern of use. To identify

such patterns, the study tests for "occurrence or state dependence" and suggests two main reasons to explain such dependence, namely learning effects and human capital loss.

For most individuals who work full time, the option of leaving employment to collect UI is probably never considered. However, if individuals experience an unexpected layoff and a spell of unemployment, then they will become aware of the parameters of the UI system, and learn that they may be better off only working part of the year and collecting UI benefits for the remainder of the year. In such a case, the first spell of unemployment will permanently increase the probability of future use.

Such a learning effect will likely vary by region. In high unemployment regions, more individuals are aware of the parameters of the UI system. In such regions, the effect of first time use should be smaller since a first experience with the system will not teach a person anything not already known through family or friends. Secondly, variations in the generosity of the system will most likely affect the usage rate by individuals who are well informed about the system, but not necessarily those who had little UI experience.

A second reason why first time use may lead to higher future use is the loss of human capital. Technical change may cause a worker to face a capital loss on his skills if it reduces the market value of this worker's skill market value. It will then take time for the worker to reinvest in the newer skills required to find a permanent job. Therefore, persistence will be observed in the use of UI as the worker gets re-attached to the labour market. It is important to separate these "adjustment lags" from learning effects. However,

the UI system may slow down this adjustment by giving the incentive to the worker to cycle in and out of employment rather than investing in new skills.

Data and methodology

To analyse the dynamics of UI reciprocity in Canada, the UI administrative data from the Status Vector file (STVC) was combined with the T4 supplementary file of HRDC to yield a detailed longitudinal history of UI and labour income reciprocity from 1972 to 1992.

From this longitudinal data, analysis is made of the increasing concentration of UI spells over the last two decades among high frequency users of UI. Econometric estimates are made of the propensity to collect UI in order to test the hypothesis that learning about the functioning of the UI system may explain some of the dynamics of UI reciprocity.

This analysis begins in 1971, after the large reform of that year. Thus the learning effect is concerned with how individuals change their behaviour in response to a first time experience with the UI parameters given by the 1971 reform. The regressions control for the year, for business cycle effects, and the age and other worker characteristics. All other estimated effects are in addition to these “baseline” effects.

The analysis has been restricted to regular benefits claims. *Results are now only available for male workers* since more information would have been necessary to model women’s labour force participation decisions.

Key findings

UI and “repeaters”

The fraction of UI spells accounted for by recipients who repeatedly use UI has significantly increased over time. Over the 21 year period studied, the 31 percent of claimants who only have one spell of UI account for 8 percent of all UI spells, while the 7 percent of claimants with 11 or more spells account for 22 percent of all UI spells. For low frequency users, the probability of receiving UI essentially follows the business cycle, that is, it increases during recessions and decreases during expansions. By contrast, the same probability for high frequency users does not seem to follow the business cycle. Once we control for business cycle effects, high frequency users account for an increasing share of UI spells while low

frequency users account for a decreasing share.

This body of evidence suggests that UI plays a different role for different groups of workers. For low frequency users, UI is more or less a pure insurance system that protects workers against labour market risks such as recessions. For high frequency users, UI looks increasingly like a permanent income support program that has little to do with labour market risks.

Learning Effects

One factor that could explain the tendency of the UI system to become increasingly an income support program for marginal workers is the learning effect. As people learn or experience the UI system, an increasingly large fraction of them are likely to become part-year workers. If learning effects are important, a given experience with the UI system should have a larger impact on the future probability of receiving UI for people who had no previous experience with the UI system than for people who had some previous experience.

Using the 1982-83 recession period as a natural experiment, the results of “difference-in-differences” estimations show that a *first time exposure to UI permanently increases the probability of receiving UI again in the future, and could in part explain the upward trend in the use of UI by high frequency users.* The estimated effect tends to be lower for people who are more likely to know how the UI system operates (e.g. young workers). Results indicate that first time use of UI increases the probability of future use by 12 percent for older workers, while it increases the same probability for younger worker by only 6 percent.

Econometric estimates confirm that learning effects tend to be large and positive for older workers but much smaller and often negative for younger workers. In addition, learning effects are largest in Ontario, Alberta and British Columbia — three provinces in which the use of UI is less widespread than in the rest of the country. Nationally, first time use of the UI system is estimated to increase future use by about 4 percent.

An econometric estimation on a pooled version of the model suggests that *the size of the learning effect tends to decline over time.* This is consistent with the idea that “social learning” (i.e. learning from the individual’s social environment) can be a substitute for learning based on previous experience. *The estimated learning effect should thus become smaller as the characteristics of the program become better known to the public.*

It is important to point out, however, that there is a lot of persistence in the propensity to use UI that has little to do with initial learning effects. The sum of the effect of lagged adjustments is, on average, much larger than the size of the estimated learning effects. At the national level, the estimated effect could range up to 36 percent. This suggests that labour market shocks experienced by and specific to the individual can have relatively large effects on the propensity to use UI in the future, and that their effects will persist over several years.

Since a non-linear regression model was used, these probabilities are not additive. In other words, if a worker received UI in the previous four years, this increases the probability of receiving UI by 36 percent compared to a worker who has not received UI in the previous four years, but has used UI at some point. In conclusion, the maximum effect of lagged adjustments is a 36 percent greater probability in receiving UI, and the combination of learning effects and lagged adjustments will be 39 percent for youth and 42 percent for older workers.

Subsidy rate

The UI parameters were combined into a single “subsidy rate” of UI, defined as the replacement rate multiplied by the maximum number of weeks of eligibility and divided by the minimum number of weeks to qualify. An increase in the subsidy rate reflects an increase in the generosity of the system which, in turn, encourages more individuals to claim UI. It should therefore have a positive effect on the probability of receiving unemployment insurance.

The estimates indicate that the subsidy rate has a positive marginal effect, about 1 percent, on the propensity to use UI in the future. The effect is larger for people who have learned than for people who have not, but the difference is not statistically significant. This measured effect of the subsidy rate is due mostly to changes in the qualification period because there is very little variation in the replacement rate in the data. Further, the qualification period has two effects. By increasing the qualification period, it makes it more difficult for individuals to cycle within the year and, therefore, the effect on the probability of receiving UI in a year must be negative, even in the absence of a behavioural change. The second effect of the UI entrance requirement is to make cycling on the UI system less attractive. The analysis was not able to distinguish between these two effects.

Policy implications and options

Learning effect and adjustment lags observed in this study have important implications for policy. The first is an “**hysteresis effect**”, which implies that reversing a previous policy will not return the economy to its previous state. When a new program is introduced, individuals adjust their behaviour and make “investments” in new patterns of behaviour. For example, more individuals may have invested in a career as a fisherman as they knew that they would be able to qualify for UI out of season. Once this choice is made, and family location has been chosen as a result of this occupational choice, reversing the decision in the future may be very costly.

Secondly, *the speed of behavioural response to policy changes is likely to be very asymmetric, depending on whether a program is increasing or decreasing in size.* When a program is made more generous, more people are expected to use it. Like any other “profit” opportunity, it will take time for people to learn about the new policy and adjust to its parameters. The study found evidence that first time use tends to increase future use. This means that before using the system, claimants were unaware of its benefits and used it less than they might have otherwise. It should be emphasised that the effects found tend to be an understatement of the full learning effect. This is because only a fraction of those persons on UI actually benefit from choosing to cycle in and out of the system. As it was indicated above, the fraction of individuals who use the UI system as an income support system has increased over time. This highlights the important fact that it may take several years until the full financial ramifications of a more generous program are realised.

Finally, if one tries to reverse the process, the learning effect is not immediate. That is to say, individuals currently using the program are immediately made aware of any cutbacks in benefits. This also creates a well defined interest group to fight the cutbacks. Such a negative response is likely to be amplified by the investment decisions that individuals have made in responding to the program. In particular, if they did not anticipate that a cutback would occur in the future at the time of their occupation choice, this would result in over-investment in occupations that make use of the benefits arising from the UI system.

These behavioural implications are considered for some policy options. Given the current emphasis

on cost reduction, the impacts of potential changes to increase the qualification period, reduce the benefit entitlement and decrease the benefit/wage replacement rate are assessed for low use and high use UI claimants. Increasing the qualification period may be the best policy option if the objective of UI is to target the infrequent claimants who need occasional support, while discouraging cycling by a minority of high use individuals. Decreasing the replacement rate uniformly affects both high and low frequency users, thus significant changes in this area are likely to result in high levels of opposition. Given that the benefit period is of more importance to the occasional user than to the frequent claimant, decreasing this level of benefits affects disproportionately the low user group. Taking into account the fact that policy has a greatest immediate impact on individuals who have experience with the system, it may be sensible to have the qualification period, the instrument of choice, vary by age or labour force attachment.

Biographical notes

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Copies of the full technical report (when finalised) and further copies of this summary are available from:

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